

**POLYMER STABILISED, CRYSTALLISED, CATANIONIC MEMBRANES,  
PREPARATION METHOD THEREOF AND APPLICATIONS OF SAME**

Abstract of the Disclosure

The invention relates to crystallised, catanionic membranes in organised solid bilayer form, having laterally-alternating anionic surfactants (AS) with  $H^+$  counter ions and cationic surfactants (CS) with  $OH^-$  counter ions which are co-crystallised with a mole fraction  $Q_{AS}/(Q_{AS} + Q_{CS})$  greater than 0.5. According to the invention, the membrane forms a surface which is flat, at least locally, and the bilayer is stabilised by at least one polymer which is neutral and hydrophobic or which has an opposite overall electric charge to the effective charge of the catanionic membrane, the polymer being absorbed on the surface. The invention also relates to a method of preparing the membranes, the uses thereof, for examples as a medicament for the vectorisation of active species or for the retention of volatile molecules.